

# Laboratorial Syringe Pump

## dLSP 500 Series

Max. Flow Rate



- Dedicated PC software and Android App permit remote control and monitoring
- Intelligent diagnosis and voice reminder for working progress and pump status
- High precision and stable fluid delivery with good EMC performance, ideal for microfluidic and electrospinning applications
- 7 inch full touch screen with intuitive graphic interface for fantastic interactive experience
- Custom parameters can be configured quickly, and be stored and easily recalled
- User can access control and log record for safety management. With the electronic signature function for FDA (21CFR Part 11) compliance



PERISTALTIC PUMP

	dLSP 510	dLSP 520	dLSP 540*	dLSP 5A0*	dLSP 510 Pro	dLSP 520 Pro
Work mode	Infusion only, withdrawal only, infusion/withdrawal, withdrawal/infusion, auto repeated, programming (on dedicated PC software)					
Number of channel	1	2	4	10	1	2
Pusher advance per microstep	0.03255μm/μstep			0.015625μm/μstep		
Linear speed	0.0833μm/min-180mm/min			0.04μm/min-86.4mm/min		
Step speed	23.4375 sec/μstep-10.85 μsec/μstep					
Linear travel accuracy (Rated)	±0.5%			±0.35%		
Linear travel CV(Rated)	±0.05%					
Linear force (Rated)	Rated thrust 40lbs/18kg adjustable thrust					
Motor and drive	1.8° step motor with 1/64 microstepping					
Syringe	0.5uL-60mL	0.5uL-30mL	0.5uL-20mL	0.5uL-10mL	0.5uL-60mL	0.5uL-30mL
User-defined syringe	Travel≤108mm, OD≤31.5mm	Travel≤108mm, OD≤26mm	Travel≤108mm, OD≤22mm	Travel≤108mm, OD≤18mm	Travel≤108mm, OD≤31.5mm	Travel≤108mm, OD≤26mm
Display	7 Inch, 1024x600, IPS HD LCD					
Language	Chinese or English, set as needed					
Control mode	Touch screen control, dedicated PC or Android App control, footswitch control, RS485 communication control					
Interface	RS485(optional), USB-B,USB-A,Wifi, bluetooth, Ethernet, footswitch 3 outputs- solid state relay signal, 2 inputs-switch signal or TTL signal, 4-20mA signal(optional)					
Wireless connectivity(optional)	Wifi, bluetooth					
Programming function	Parameter configured based on work flow: constant, ramp, loop, delay, repeat, I/O output trigger, I/O event input trigger, touch screen trigger					
Calibration	Improve flow rate/ dispensing volume precision and accuracy					
Parameter method	Parameter methods can be stored and easily recalled					
Real time clock	Date and time can be set					
Audible alarm	For keypad clicks, end of run, near end of run, power on, motor stall, etc.					
Voice reminder	For working progress, alarm, diagnosis					
Intelligent diagnosis	N/A			For presence of syringes, syringe leakage		
Screen lock	To prevent misoperation					
User access control	Three levels of user accesses(administrator, developer, operator), in line with safety management requirement(21CFR Part 11)					
Log record	Record the complete operation history of the pump, and can be exported directly					
Electronic signature and audit trail	Meet the requirement of 21CFR Part 11 (on dedicated PC software)					
Support 3Q(IQ/OQ/PQ)	Meet GMP requirement					
EMC	CE (TUV) certified					
Dimension(L×W×H)	Drive unit: 260mm×185mm×180mm, Controller: 190mm×123mm×33mm					
Power supply	AC 100V-240V/30W 50/60Hz			AC 100V-240V/20W 50/60Hz		
Operating condition	Temperature: 5°C-40°C, Relative humidity<85%					
IP rating	IP31					
Controller weight	0.4kg					
Pump drive weight	3.5kg		3.7kg	4kg		3.5kg

Product Model		dLSP 510/dLSP 520/dLSP 540/dLSP 5A0	dLSP 510 Pro/dLSP 520 Pro
Syringe	Syringe ID (mm)	Reference flow rate (nL/min-mL/min)	
0.5ul	0.1	0.0007nL/min-0.0014mL/min	0.0003nL/min-0.0007mL/min
5ul	0.35	0.008nL/min-0.017mL/min	0.004nL/min-0.008mL/min
10ul	0.5	0.016nL/min-0.035mL/min	0.008nL/min-0.017mL/min
25ul	0.8	0.042nL/min-0.090mL/min	0.020nL/min-0.043mL/min
50ul	1.1	0.079nL/min-0.171mL/min	0.038nL/min-0.082mL/min
100ul	1.6	0.167nL/min-0.362mL/min	0.080nL/min-0.174mL/min
500ul	3.25	0.691nL/min-1.493mL/min	0.332nL/min-0.717mL/min
1ml	4.72	1.458nL/min-3.150mL/min	0.700nL/min-1.512mL/min
2ml	9	5.299nL/min-11.451mL/min	2.545nL/min-5.497mL/min
5ml	13.1	11.227nL/min-24.261mL/min	5.391nL/min-11.645mL/min
10ml	16.6	18.028nL/min-38.956mL/min	8.657nL/min-18.699mL/min
20ml	19	23.618nL/min-51.035mL/min	11.341nL/min-24.497mL/min
30ml	23	34.609nL/min-74.786mL/min	16.619nL/min-35.897mL/min
60ml (510 series)	29.14	55.554nL/min-120.044mL/min	26.677nL/min-57.621mL/min

\*product is in the process of certification